

Significant environmental challenges in the aquaculture industry

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The aquaculture industry is facing significant environmental challenges, among other things in the form of high figures for escaped fish, salmon lice and extensive losses due to disease. - The extent of these and other environmental challenges is so great that it is necessary to strengthen the management of aquaculture in order to ensure environmental sustainability and the possibility of future growth in the industry, says Auditor General Jørgen Kosmo.

Document 3:9 (2011-2012) *The Office of the Auditor General's investigation into the management of aquaculture* was submitted to the Storting on 6 March 2012.

The aquaculture industry in Norway has grown considerably for several years and it is an important industry and employer. The Office of the Auditor General's investigations shows that the strong growth also has a significant environmental impact, particularly in areas with extensive, high density aquaculture production.

There is now a high proportion of escaped farmed fish among wild fish. This represents a threat to the wild fish's ability to survive, and in some areas it has also affected the genetic distinctiveness of wild salmon. The goal of reducing impacts that threaten the genetic diversity of salmon to a non-harmful level by 2010 has not been achieved.

There are substantial losses of farmed fish, particularly as a result of disease. The disease situation has not improved since 2000, and the extensive losses mean large financial losses for the industry and inefficient use of marine areas. The prevalence of lice remains at a high level along large parts of the coast. For farmed fish, this primarily means poorer fish welfare, and the ability to survive is also reduced, particularly for sea trout. Aquaculture contributes to discharges of large amounts of nutrient salts, organic material and chemicals in the areas around fish farms. The consequences of the total discharges from the aquaculture industry have yet to be clarified, but chemicals, primarily from the treatment of lice, are discharged untreated into the water, and such agents have been shown to harm nature.

The aquaculture industry is dependent on large quantities of wild fish for fish feed.

- The fishing pressure on some of these species has been great, and it is important that the Ministry of Fisheries and Coastal Affairs continues its work of ensuring that all wild resources that are part of the feed for farmed fish come from sustainable fisheries. It is also important to ensure

efficient utilisation of by-products from the production of fish for human consumption, says Auditor General Jørgen Kosmo.

The present use of policy instruments is not sufficiently adapted to the environmental challenges. An overall plan is lacking for the use of marine areas. When awarding licences to engage in fish farming and when regulating the aquaculture facilities, the main focus is on the individual site. However, several of the environmental challenges are related to the total environmental load from several aquaculture facilities in a wider area.

It can be challenging for case officers to assess what is environmentally justifiable pursuant to the regulations when awarding licences. When the government administration assesses environmental aspects of applications for the operation of aquaculture facilities, the outcome of identical cases may differ. This applies to the Norwegian Food Safety Authority in particular. A number of environmental goals have been defined for the aquaculture industry. However, the investigation shows that the government administration has not developed and applied indicators to any great extent that could show whether the goal of a sustainable and environmentally sound aquaculture industry are achieved.

Breaches of the regulations are often uncovered during inspections of aquaculture facilities, and the use of sanctions varies at the regional and local levels in the Directorate of Fisheries and the Norwegian Food Safety Authority. It is also pointed out that, in connection with inspections, there is a lack of sufficiently precise tools to gain an overview of the total amount of farmed fish in the fish farms.

The Ministry of Fisheries and Coastal Affairs is responsible for setting the maximum amount of farmed fish that can be produced. The investigation shows that, in recent years, the ministries involved have placed greater emphasis on the environment when considering whether the production of farmed salmon can be increased.

According to the ministry, several of the issues mentioned will be considered in connection with the work on a new report to the Storting towards the end of 2012. Following up the Office of the Auditor General's remarks will be a priority task in the time ahead.

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